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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/126,826	07/31/1998	SHUNPEI YAMAZAKI	07977/019002	9346

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EXAMINER

NGUYEN, DUNG T

ART UNIT PAPER NUMBER

2871

DATE MAILED: 12/03/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/126,826	Applicant(s) Yamazaki et al.
Examiner Dung Nguyen	Art Unit 2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 16, 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 7-9, 13-18, 22, 23, 27-37, 39, 42-48, 51-58, and 61-71 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7-9, 13-18, 22, 23, 27-37, 39, 42-48, 51-58, and 61-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

Art Unit: 2871

DETAILED ACTION

A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/16/2001 has been entered.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 2, 7-9, 13-18, 28-32, 36-37, 39, 42-48, 51-54, 63-64, 65-67 and 69-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mawatari et al., US Patent No. 5,200,847, in view of Sawatsubashi et al., US Patent 5,148,301.

Regarding the above claims, Mawatari et al. disclose an active matrix LCD device (figures 3-4) having:

- a pair of opposed substrate (101, 102);
- a pixel circuit comprising a scanning line (104), a data line (105), a TFT (106) and pixel electrode (107) as claimed; each TFT comprising a channel region crystal silicon, a silicon oxide/polyimide passivation (according to TFT structure);
- a liquid crystal material (LC) disposed between the pair of opposed substrate;

Art Unit: 2871

- a driver circuit (120) formed on a substrate (118) and adhered to the substrate (101) by a resin adhesive layer (125);
- a passivation film covered TFT having a contact hole for electrical connection through a tapered configuration (according to active matrix LCD);

Although Mawatari et al. do not disclose the substrate can be formed by plastic, one of ordinary skill in the art would have realized the desire to form a substrate in an LCD device can be formed by plastic since it is a common practice in the LCD art. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form a plastic substrate in the Mawatari et al. LCD device in order to decrease the weight and reduce the cost of the LCD device.

Mawatari et al. neither discloses a second substrate covering the driver circuit nor a sealing member encloses the pixel circuit and the driver circuit. Sawatsubashi et al. do disclose an upper substrate can be covered/overlapped the driver circuit and seal it between two substrate as shown in figures 8 and 11. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to form a sealant between two substrate of an LCD device, so that encloses a pixel circuit and a driver circuit, because it is a common practice in the art to protect the driver circuit from damage as well as to prevent the liquid crystal material from leaking out through such opening.

Art Unit: 2871

3. Claims 22, 23, 27, 33-35, 55-58, 61-62 and 68, 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mawatari et al., US Patent No. 5,200,847 , in view of Sawatsubashi et al., US Patent 5,148,301, further in view of Watanable et al., US Patent No. 4,643,526.

Regarding the above claims, the modification to Mawatari et al. discloses the claimed invention as described above except for a driver circuit which is electrically connected to a TFT of an active matrix circuit through a metal bump. However, Watanable et al. show in Figure 3 a gold bump (33) which are connected driver circuit (IC chip 32) to internal circuit (conductive films 22a and 22b) of an LCD device. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form an LCD device of Mawatari et al. having a metal bump as shown in Watanable et al. since the bump (33) serve to form a large space between the IC chip (32) and substrate, so that the molding material can be easily injected into the space without bubbles forming (column 3, line 42-45)

Double Patenting

4. Claims 1, 2, 4, 7-10, 13-19, 22-24, 27-37, 39, 42-49, 51-58 and 61-62 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5 and 17 of U.S. Patent No. 5,834,327 , as stated in the final office action.

Applicant's request that a formal response to the Double Patenting rejection be held in abeyance until other rejections are resolved is acknowledged.

Art Unit: 2871

Response to Arguments

5. Applicant's arguments filed on 09/20/2001 have been considered but are moot in view of the new grounds of the above rejection.


It should also be noted that the limitation of claims 65-71 recites a one-step process which does not further limit the structure of the claimed reflector. Therefore, the process limitation does not have patentable weight.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Dung Nguyen whose telephone number is (703) 305-0423. The fax phone number for this Group is (703) 746-7730.

DN
11/19/2001


William L. Sikes
Supervisory Patent Examiner
Group 2800